IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
Before the Board of Patent Appeals and Interferences

In re Patent Application of	Conf. No.: 4547
YOSHIDA et al.	Atty. Ref.: LB-4255-5
Serial No. 10/688,994	TC/A.U.: 1795
Filed: October 21, 2003	Examiner: Trinh, T.

For: SOLAR CELL MODULE AND EDGE FACE SEALING MEMBER FOR SAME

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December 28, 2010

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Commissioner for Patents
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Sir:

REPLY BRIEF

Appellant hereby submits this Reply Brief under the provisions of 37 C.F.R. 1.193(b) in response to the Examiner's Answer mailed November 1, 2010.

The arguments set forth in the Appeal Brief dated August 3, 2010 are incorporated herein by reference, and Appellant will not repeat the same herein. The following arguments are presented in response to new arguments presented in the Examiner's Answer and to further clarify Appellant's previous positions.

1. First Reply Argument

With respect to the issue of whether claims 1 and 14 are unpatentable under Section 103(a) over Ishikawa et al. (US 5,509,973) in view of Meadows (US 3,455,080),

and more specifically, with respect to the issue of whether Ishikawa/Meadows teaches an edge face sealing member, wherein "the edge face sealing member itself, which is an integral frame-like shape, is formed along with an outer shape of the solar cell module body", the Examiner identified member 5 in Fig. 5 of Ishikawa as the claimed edge face sealing member, see pp. 14-15 of the Examiner's Answer. The Examiner admitted that members 5 in Ishikawa have an opening at the corner, and turned to Meadows who "teaches an edge face sealing member having closed corners", see pp. 19-20 of the Examiner's Answer. According to the Examiner, it would have been obvious to one of ordinary skill in the art to have the sealing member of Ishikawa sealing the entire edge portion of the solar cell module body (as taught by Meadows), since "such modification would have involved a mere substitution of known equivalent structures (sealing perimeter of the solar cell module versus dealing the entire perimeter such as including the edge of each corner", see p. 21 of the Examiner's Answer.

The Examiner stated that claims 1 and 14 do not recite an edge face sealing member that comprises a single member having a frame-like shape, emphasis included, and that in Fig. 1 of the instant specification, Appellant discloses an edge face sealing member with lines at each corner of the edge-face sealing member, therefore "the lines at each corner appear to indicate the 'integral frame-like shape' is formed of separate parts", see paragraph bridging pp. 21-22 of the Examiner's Answer. Moreover, the Examiner cited paragraph [0004] of the specification of the present application to allege that in Appellant's own description, "integral frame-like shape" is referred to as being composed of parts and not referred to as being one single member, one single-piece. Finally, the

Examiner cited paragraph [0061] in the instant specification, and alleged that "there is nothing in paragraph [0061] distinctively describing the edge face sealing member being one single member or one single-piece and not being composed of parts", emphasis included, see pp. 23-24 of the Examiner's Answer.

As disclosed in Fig. 2 and paragraph [0004] of the instant specification, in the edge face sealing member, upper sealing region 11 and lower sealing region 12 are disposed so as to open somewhat to the outside therefrom at either side from edge portions 13a of side sealing region 13. In other words, in the state of the edge face sealing member itself (i.e., the state shown in Fig. 1), upper sealing region 11 and lower sealing region 12 are disposed so as to form obtuse angles, not right angles, with respect to the side sealing region. This is clearly shown in Fig. 2. When the edge face sealing member with such cross section is formed in frame-like shape as shown in Fig. 1, at each corner of the frame-like shape two adjacent upper sealing regions 11 cannot be in the same plane; similarly, two adjacent lower sealing regions 12 cannot be in the same plane.

For example, in Fig. 1, four upper sealing regions 11 are shaped corresponding to each of a lateral face of a quadrangular pyramid (with a plane cut, said plane being parallel to the bottom face). Using a line to represent an edge that is formed, by which different surfaces intersect in three-dimensional space (in the example above, an edge that is formed by which each of lateral faces of the quadrangular pyramid intersect) is ordinary knowledge to one of ordinary skill in the art. Therefore, the lines depicted at each corner of the edge face sealing member of Fig. 1 indicate such edges, and do not indicate separate members joined together.

In other words, the lines at the four corners of Fig. 1 merely show how adjacent surfaces intersect in space (since said surfaces are not coplanar). The Examiner's conclusion that this represents separate sections of the edge face sealing member lacks any support in the specification and is based on the Examiner's own interpretation.

Paragraph [0004], cited by the Examiner, as allegedly teaching that "integral" means "composed of parts", refers to frame elements 51, 52, 53 and 54 of the frame body 5. However, this frame body 5 is not the claimed edge face sealing member. Instead, frame body 5 is a member that receives the edge face sealing member (which holds the solar cell module body). As paragraph [0042] teaches:

> This edge face sealing member 1, which is frame-like in shape and is formed in more or less parallel fashion with respect to the outer shape of solar cell module body 4 shown in FIG. 6, captures solar cell module body 4 along substantially the entire edge portion 45 perimeter thereof, and with these in this state, this is captured within the frames 51, 52, 53 and 54 of frame body 5 (see FIG. 7).

The term "integral", cited in paragraph [0004] does not refer to the edge face sealing member, but rather refers to the frame which holds and surrounds the edge face sealing member, when the entire solar cell device is assembled. Hence, the Examiner's assertion that the term "integral" is not supported by the instant specification is incorrect.

The second sentence of paragraph [0061], cited by the Examiner, recites "…one or more edge face sealing members, frame-like in shape and formed in more or less parallel fashion with respect to one or more outer shapes of the solar cell module body or bodies, is or are prepared". In this regard, the paragraph recites "frame-shaped, integral-type edge face sealing member(s) capture solar cell module body", and the subject of "capture" is "frame-shaped edge face sealing member". That is to say, the description

clearly recites that the edge face sealing member is prepared in frame-like shape. If, in the Examiner's assessment, the edge face sealing member is formed of separate parts, then the subject of "capture" must be "separate parts of the edge face sealing member" and the edge face sealing member is not formed in frame-like shape before capturing the solar cell module body. That is to say, "frame-shaped, integral-type edge face sealing member(s)" is not prepared. In other words, the edge face sealing member must be in a frame-like shape "originally", which is totally different from the configuration disclosed in Ishikawa or Meadows (i.e., a configuration becoming a frame-like shape). Due to such configuration, the invention of claim 1 and 14 achieves the characteristic effect of "definite sealing of solar cell module body or bodies is permitted, permitting definite prevention of entry by water", as recited in paragraph [0061].

Finally, even if a combination of Ishikawa and Meadows might cover all corners, however that would not be in the claimed integral frame-like fashion, since the frame of Meadows comprises separate pieces (see Fig. 4).

2. Second Reply Argument

With respect to the issue of whether claims 1 and 14 are unpatentable under Section 103(a) over Ishikawa et al. (US 5,509,973) in view of Meadows (US 3,455,080), and more specifically, with respect to the issue of whether member 5 of Fig. 5 of Ishikawa is shaped as a linear member and not shaped as a frame, the Examiner stated that member 5 in Fig. 5 of Ishikawa "is shaped as a frame enclosing the solar cell module 4", see p. 25 of the Examiner's Answer.

As can be clearly seen in Fig. 5 of Ishikawa, member 5 comprises four linear sections (one along each side of panel 4), leaving the four corners open and uncovered. In fact, the Examiner has admitted this, see p. 19 of the Examiner's Answer. Thus, member 5 does not enclose the corners, thus it is not a frame, framing each point along the periphery of the panel 4.

3. Third Reply Argument

With respect to the issue of whether claims 1 and 14 are unpatentable under Section 103(a) over Ishikawa et al. (US 5,509,973) in view of Meadows (US 3,455,080), and more specifically, with respect to the issue of whether one would have looked into Meadows to modify Ishikawa, the Examiner stated that Meadows is relied upon for the teaching of a sealing member having closed corners and not relied upon for teaching an edge face sealing member fitted inside a frame (for which Ishikawa is cited).

The Examiner is correct in saying that the frame in Meadows encloses the corners. However, the frame in Meadows is not "integral frame-like shape", as required by the claims 1 and 14, a limitation admittedly missing from Ishikawa. In this regard, the frames of Ishikawa and Meadows are similar. They both surround the panel. However, none does it in a single-piece fashion, i.e., in an integral frame-like shape. Ishikawa's frame leaves the corners open, whereas the frame of Meadows is not integral (see Fig. 4). As discussed above, there is support in the instant specification for the integral nature of the edge face sealing member itself.

4. Fourth Reply Argument

With respect to the issue of whether claims 1 and 14 are unpatentable under Section 103(a) over Ishikawa et al. (US 5,509,973) in view of Meadows (US 3,455,080), and more specifically, with respect to the issue of whether the tongues shown in Figs. 6 and 7 of Ishikawa are completely flattened, the Examiner stated that "causing the tongues of members 5 completely flatten is deemed to be the intended use for the edge face sealing member" and that "regardless what causes the tongues of members 5 to be flattened, either by pressure or something else, Ishikawa still teaches the claimed limitation of the sealing regions (e.g., upper, lower and side) coming into intimate contact with the solar cell module (see Figs. 1-3 and 6-7 of Ishikawa)", see paragraph bridging pp. 26-27 of the Examiner's Answer.

Figs. 2-3 of Ishikawa show the shape of the edge face sealing member 5 when member 5 is within the frame. The tongues of members 5 are not completely flattened even though the members 5 are completely within the frame, thus the upper and the lower sealing regions do not come into intimate contact with the solar cell module body, unlike the Examiner's assertion.

Moreover, Appellant submits that the claim language "wherein when the edge face sealing member is captured within the frame body while the solar cell module body is captured within the edge face sealing member along an entire edge portion perimeter thereof, the upper sealing region, the lower sealing region and the side sealing region are coming into intimate contact with the solar cell module body, and the edge face sealing member seals the entire edge portion perimeter of the solar cell module body" is not

merely intended use language, but rather it positively recites the upper sealing region and the lower sealing region coming into intimate contact with the solar cell module body.

5. Fifth Reply Argument

With respect to the issue of whether claims 1 and 14 are unpatentable under Section 103(a) over Ishikawa et al. (US 5,509,973) in view of Meadows (US 3,455,080), and more specifically, with respect to the issue of whether the claimed feature not being the prevention of entrance of foreign substances into the solar cell module body but the edge face sealing member being a single member, the Examiner stated that "Appellant has no support or any description in the originally filed disclosure for redefining the term 'integral' or phrase 'integral frame-like shape' being a single member", and that it would have been obvious to one of ordinary skill in the art to "modify the edge face sealing member or the solar cell module comprising such sealing member of Ishikawa by having the sealing member with closed corners as taught by Meadows so that the solar cell module body is captured within the edge face sealing member along the entire edge portion perimeter thereof", see p. 27 of the Examiner's Answer.

First, as discussed above, the instant specification does teach that the claimed edge face sealing member is "an integral frame-like shape", comprising a single piece as shown in Fig. 1 of the specification.

Moreover, even if Meadows teaches covering the corners of the panel with a frame module 30 (see Fig. 4), Meadows does not teach doing this using an integral frame-shaped member, a feature admittedly missing from Ishikawa, and a feature that is claimed in the invention of claims 1 and 14.

For at least the reasons set forth above and discussed in detail in the previously-filed Appeal Brief, it is respectfully requested that the rejections on appeal be reversed.

Respectfully submitted,

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